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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,348	04/12/2004	Syed Omar Syed Mahmood	TI-36076	4734

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EXAMINER
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DAVIS, ROBERT B

ART UNIT	PAPER NUMBER
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1722

DATE MAILED: 06/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/823,348

Applicant(s)

MAHMOOD, SYED OMAR SYED

Examiner

Robert B. Davis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 6-9 and 13-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi (Japanese publication 02-143816 A: figures 1-3 and the English abstracts).

Takahashi teaches a mold for forming a molded part, comprising: a base plate (10), a pot (14) formed in the base plate for receiving a mold compound, a plurality of mold cavities (18) adapted to receive a microelectronic device, a channel system (15, 17) formed in the base plate and coupled to the pot and the plurality of mold cavities, and a dummy runner (20) connected to the channel system between pot (14) and the plurality of mold cavities (18) as illustrated in figure 1. The reference also teaches a vent (21) for venting the dummy cavity.

3. Claims 16 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi.

Takahashi teaches a method of forming a molded part, comprising: placing a molding compound (13) into a molding pot (14) of a mold, pushing a portion of the molding compound through at least one sprue channel (15, 17) coupled to the pot by a plunger (16), pushing a portion of the mold compound into a dummy runner channel

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(20) coupled to the sprue channel runner (15), venting air expelled from the mold compound through a vent (21) coupled to the dummy runner channel, pushing a portion of the mold compound through the runner channel and into the plurality of mold cavities (18), and curing the mold compound to form a molded part.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3-5 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi taken together with Mitai (JP 01-124225 A: figures 1-3 and the English abstract).

Takahashi discloses all claimed features except for the express placement of a semiconductor device within the mold cavity. It is noted that the assignee is Hitachi Hokkai Semiconductor LTD.

Mitai discloses a mold having a plurality of mold cavities (3), a pot (1), runners (2, 13) for connecting the pot with the mold cavities and a plurality of dummy or blind runners (15, 16, 17) between the pot and the plurality of cavities to reduce voids in the molded articles. The reference also discloses molding of semiconductor devices and therefore inherently discloses semiconductor elements placed within the molding cavities for encapsulation.

It would have been obvious at the time of the invention to one of ordinary skill in the art to modify the apparatus of Takahashi by supplying semiconductor elements within the mold cavity as disclosed by Mitai for the purpose of forming packaged semiconductor elements.

6. Claims 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi taken together with Mitai.

Takahashi discloses all claimed features except for the placement of a semiconductor element within the mold for encapsulation.

Mitai discloses molding semiconductor elements wherein semiconductor elements are inherently placed within the molding cavities for encapsulation to protect the elements from humidity and dust.

It would have been obvious at the time of the invention to one of ordinary skill in the art to modify the process of Takahashi by placing semiconductor elements within the molding cavities for the purpose of forming packaged semiconductor elements.

### ***Conclusion***

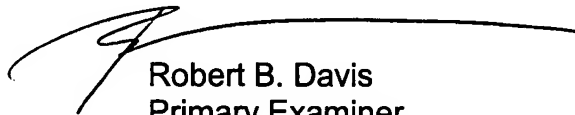
7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The remaining references illustrate the state of the art of runner systems in encapsulation molds.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert B. Davis whose telephone number is 571-272-1129. The examiner can normally be reached on Monday-Friday 9-5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra Gupta can be reached on 571-272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Robert B. Davis  
Primary Examiner  
Art Unit 1722

6/19/04